

METHOD AND APPARATUS FOR SIMULTANEOUS BLOCK MELTING OF
MATERIAL BY LASER

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ABSTRACT OF THE DISCLOSURE

10 A low cost method and apparatus for simultaneous
block melting of a material by laser enabling completion
of work in a short time. A laser beam from a YAG laser
source etc. strikes a diffraction type optical element
like a diffraction lens and is split into a large number
15 of beams by diffraction and transmission. The beams are
focused by a condensing lens etc. on a plastic surface as
a large number of points or a line. The plastic is
simultaneously heated to melt at these focused points for
welding with another object or for removal. Therefore, no
20 deformation occurs in the worked material like in the
prior art where a surface was scanned by a focused point.
The worked material may be a metal etc. in addition to a
plastic.